

Event Sequence Diagram

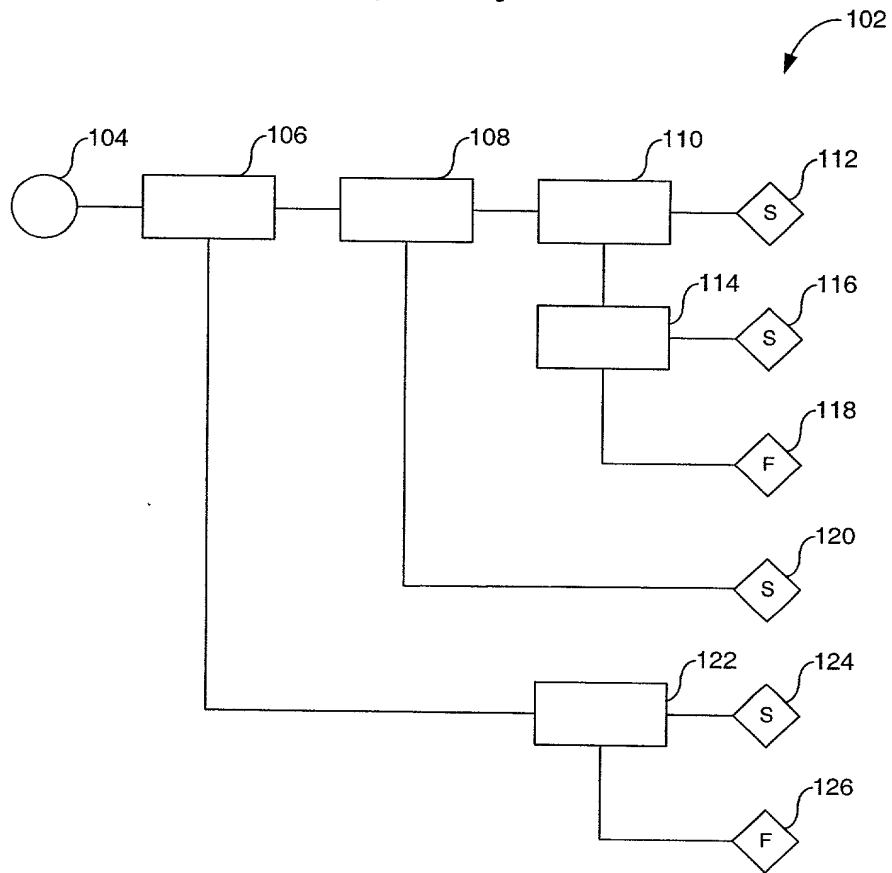


FIG. 1
(Conventional)

Fault Trees

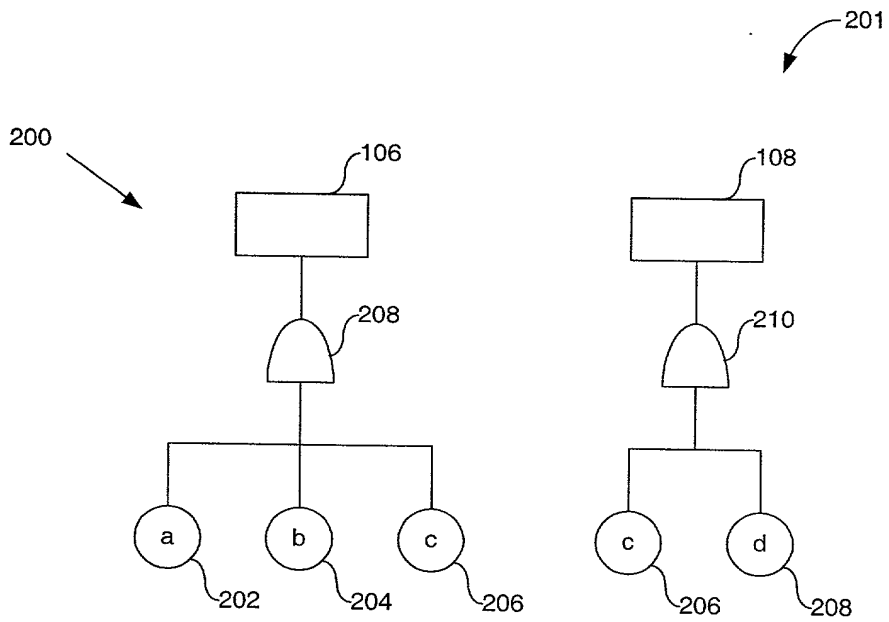


FIG. 2
(Conventional)

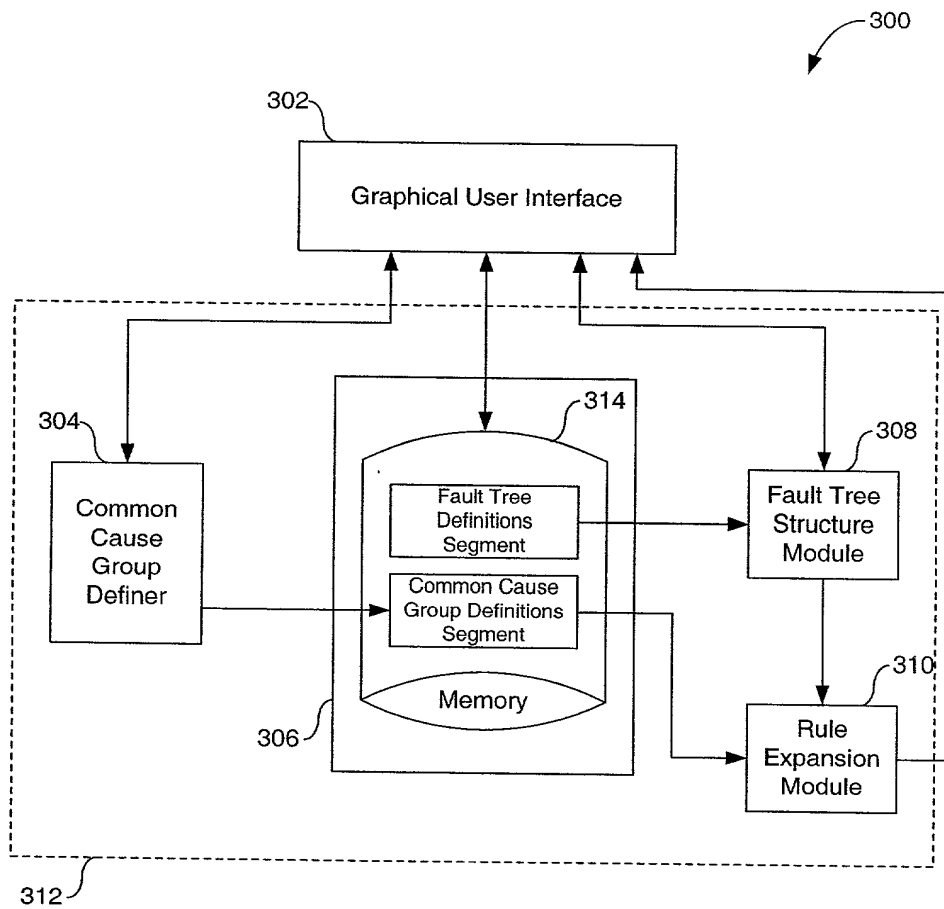


FIG. 3

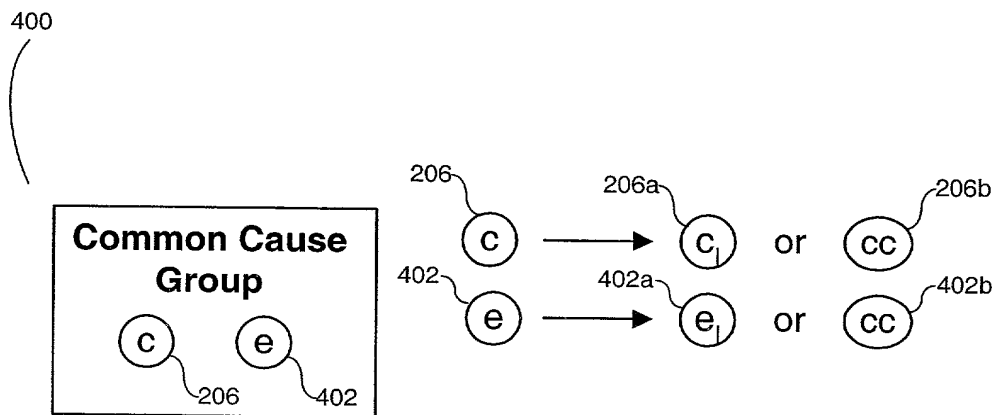


FIG. 4

FIG. 5 is a screenshot of a software interface for managing common cause groups. The interface includes a title bar, a menu bar, a toolbar, a main display area, and a status bar. The main display area shows a table with columns for ESD ID, DESIGNATOR, NAME, and DESCRIPTION. A single row is visible with the following data: 21, CCF-001A1, CCF-001A1 (A.B.D full exp). The interface also includes buttons for New, Edit, and Delete, and a search filter section.

500

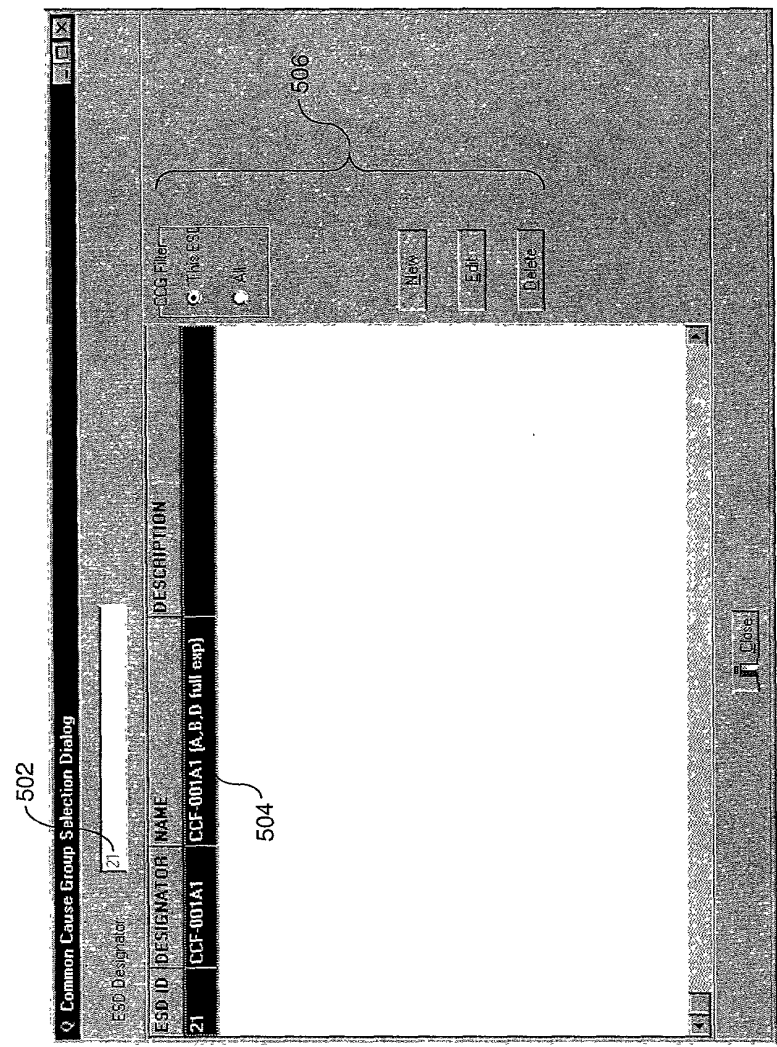


FIG. 5

CCF-001A1-IE-C
CCF-001A2-IE-B
CCF-002A2-IE
CCF-002B1-IE
CCF-002B2-IE
CCF-002B-B
CCF-003A-IE-B

600

602

Create/Edit CCF Group

CCF Designator: NewCCG CCG Name: NewCCG

Description:

Member Pass Events

Designator	Name	Description
A5	FULL-001A-IE	
A5	FULL-001B-IE	
A6	FULL-001B-IE	
A6	FULL-001A-IE	
B	CCF-002A2-IE	
B	CCF-002B1-IE	
B	CCF-001B2-IE	
B	CCF-002B2-IE	
B	002B-B	
B	CCF-003A-IE-B	

604

Available Basic Events

Designator	Name	Description
C	CCF-001A1-IE-C	
B	CCF-001A2-IE-B	

606

608

Next

Exit

FIG. 6

FIG. 7 is a screenshot of a software interface for managing CCF (Common Cause Event) expansion. The interface is titled "CCF - Expansion" and includes a "New CCG" button. The "CCG Designator" field is set to "New CCG". The "Description" field is empty. The "Member Basic Events" table lists two events: "CCF-001A1-IE-C" and "CCF-001A2-IE-B". The "Expansion of the selected basic event to CCFs" table lists two events: "CCF-001A1-IE-C-indiv." and "CCF-C.B". The interface also includes "Back", "Next", "Delete", and "Default" buttons.

700

702

606

704

706

708

710

CCF - Expansion

New CCG

CCG Designator: New CCG

Description:

Member Basic Events

Designator	Name
C	CCF-001A1-IE-C
B	CCF-001A2-IE-B

708 710

Expansion of the selected basic event to CCFs

Common Cause Events Type

☐ Global Expansion (Beta Factor Model)

☒ Full Expansion (Alpha Factor Model)

Designator	Name
C(1)	CCF-001A1-IE-C-indiv.
CC3(2)	CCF-C.B

704 706

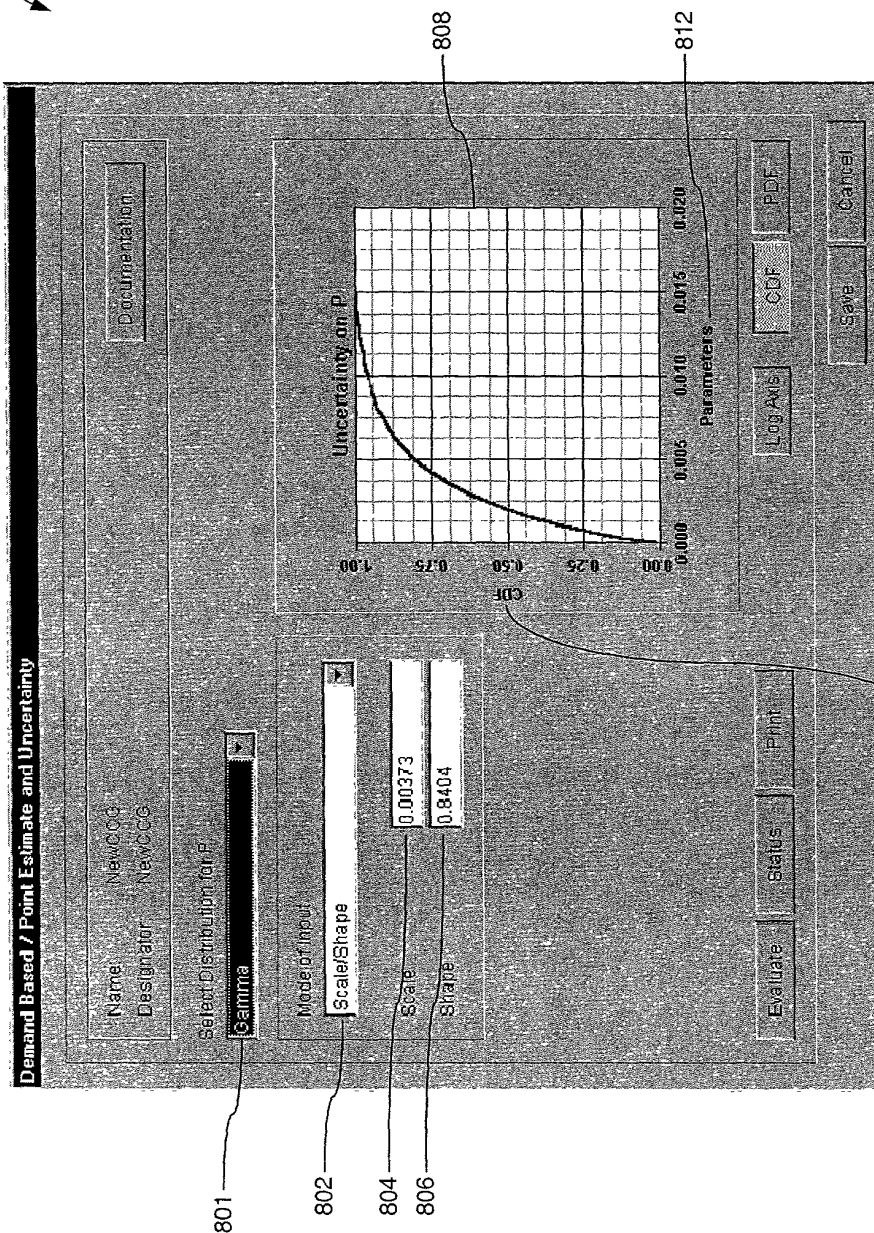
Back Next

Delete Default

Exit

FIG. 7

800



900

CCF - Quantification Parameters

CCF Designator

NewCCG

CCG Name

NewCCG

Description

CCBE Type

Full Expansion

CCBE Quantification determined by

Alpha Factor

Factor	Param. A	Param. B	Mean Value	5th	95th
Alfa1	2.1	.4	8.400E-1	4.053E-1	9.998E-1
Alfa2	.03				

Matching CCBs

Designator	Name
C(1)	CCF-001A1-IE-C-indiv.
B(1)	CCF-001A2-IE-B-indiv.

Number of member basic events

1

Number of simultaneous events

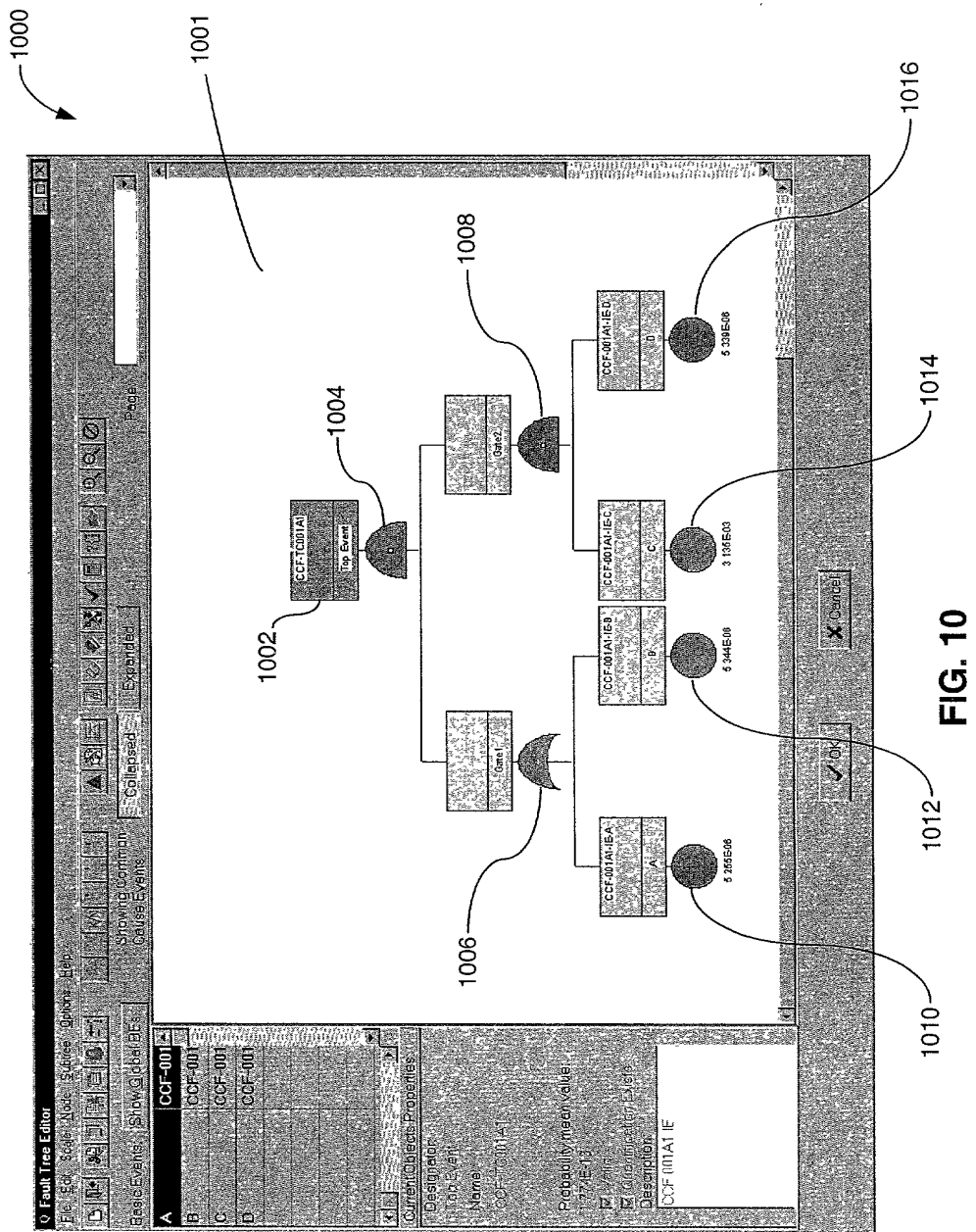
1

Probability

Back

Exit

FIG. 9



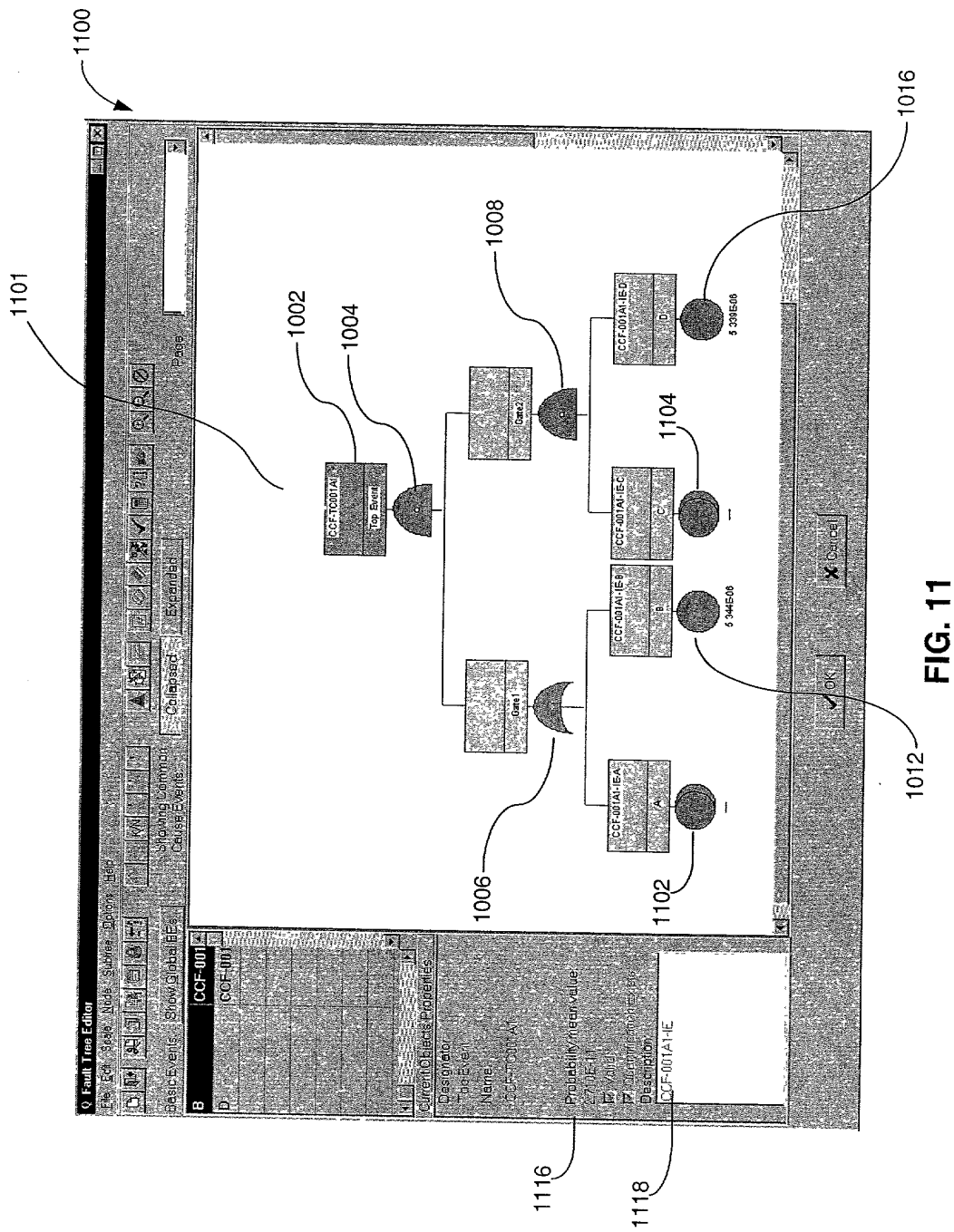


FIG. 11

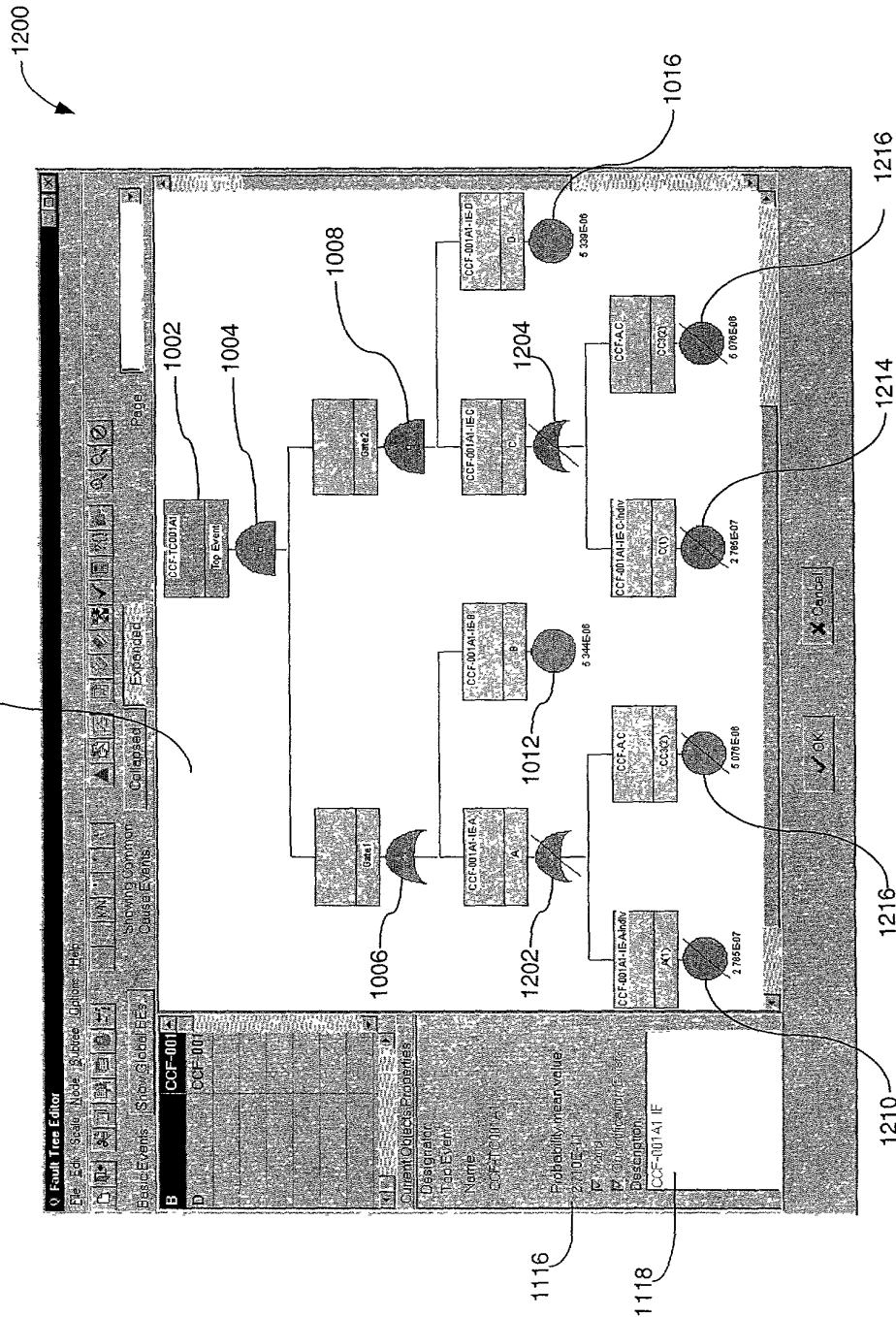


FIG. 12